

NVF5



26.5 × 26.5 × 25(+16)

Features

- Small size and light weight.
- Heavy contact load (50A).
- Suitable for automobile and lamp accessories application.
- PC board mounting and direct insert mounting available.
- 24V versions with contact gap >0.8mm.

Ordering Information

NVF5 C Z 50 a DC12V 1.6 C D

1 2 3 4 5 6 7 8 9

1 Part number: NVF5, NVF5a(Insulation Bracket),
NVF5b(with metal bracket);
2 Contact arrangement: A:1A1; A2:1A2; B:1B; C:1C; U:1U
3 Enclosure: S: Sealed type; Z: dust cover;
4 Contact current: A type:50A,40A,25A;
B type:40A,30A,20A
C type:20A,30A,40A,50A;
U type:2×15A, 2×25A
5 Terminals: b: PCB type; a: plug in type

6 Coil rated voltage(V): DC:6,12,24,48
7 Coil power consumption: 1.6:1.6W; 1.9:1.9W;
2.3:2.3W; 2.6:2.6W
8 Contact material: C:AgCdO; N:AgNi; NIL: AgSnO₂
9 Coil transient suppression: D: with diode;
2D: with two diodes;
R: with resistance;
DR: with diode and resistance;
NIL: standard

Contact Data

Contact Arrangement	1A(1H) (SPSTNO) ,1B(1D) (SPSTNC) ,1C(1Z) (SPDT(B-M)) ,1U(SH) (SPSTNODM)			
Contact Material	AgSnO ₂ , AgNi, AgCdO			
	1A	1B	1C	1U
Contact Rating (resistive)	50A, 40A/14VDC 25A/24VDC	40A,30A/14VDC 20A/24VDC	NO:50A,40A/14VDC NC:40A,30A/14VDC 20A/24VDC	2×25A/14VDC 2×15A/24VDC
Max. Switching Power	700W			
Max. Switching Voltage	75VDC Max. Switching Current: 50A			
Contact Resistance or Voltage drop	< 30mΩ		Item 4.12 of IEC 61810-7	
Operation life	Electrical	10 ⁵ Item 4.30 of IEC 61810-7		
	Mechanical	10 ⁷ Item 4.31 of IEC 61810-7		

NOTE:Special high performance 24V version with contact gap >0.8mm;Limiting continuous current at 125°C:NC/NO:10A/15A, 1U:2×11A.

Coil Parameter

Dash numbers	Coil voltage VDC		Coil resistance Ω ±10%	Pickup voltage VDC(max) (65%of rated voltage)	Release voltage VDC(min) (10% of rated voltage)	Coil power consumption W	Operate Time ms	Release Time ms
	Rated	Max.						
006-1600	6	7.8	22.5	3.9	0.6	1.6	<7	<5
009-1600	9	11.7	50.6	5.9	0.9			
012-1600	12	15.6	90	7.8	1.2			
024-1600	24	31.2	360	15.6	2.4			
048-1600	48	62.4	1440	31.2	4.8			
006-1900	6	7.8	19	3.9	0.6	1.9	<7	<5
012-1900	12	15.6	75.8	7.8	1.2			
024-1900	24	31.2	303.2	15.6	2.4			
006-2300	6	7.8	15.6	3.9	0.6	2.3	<7	<5
012-2300	12	15.6	62.6	7.8	1.2			
024-2300	24	31.2	250.4	15.6	2.4			
006-2600	6	7.8	13.8	3.9	0.6	2.6	<7	<5
012-2600	12	15.6	55.4	7.8	1.2			
024-2600	24	31.2	221.5	15.6	2.4			

CAUTION: 1.The use of any coil voltage less than the rated coil voltage will compromise the operation of the relay.
2.Pickup and release voltage are for test purposes only and are not to be used as design criteria.

Operation condition

Insulation Resistance ¹⁾	100MΩ min (at 500VDC)	Item 7 of IEC 60255-5
Dielectric Strength ¹⁾ Between contacts Between contact and coil	50Hz 500V 50Hz 750V	Item 6 of IEC 60255-5 Item 6 of IEC 60255-5
Shock resistance	147m/s ² 11ms	IEC 68-2-27 test Ea
Vibration resistance	10Hz~40Hz double amplitude 1.5mm	IEC 68-2-6 test Fc
Terminals strength	8N 4N (PC type)	IEC 68-2-21 test Ua2
Solderability	235°C ± 2°C 3s ± 0.5s	IEC 68-2-20 test Ta method 1
Ambient Temperature	-40°C ~ 125°C	
Relative Humidity	85% (40°C)	IEC 68-2-3 test Ca
Mass	31g(NVF5);36g(NVF5a)	

Note: 1). When testing, coil terminals should be connected, If coil transient suppression is installed in relay .

Dimensions

mm /inch

Technical drawing showing the dimensions of the NVF5 type relay. Key dimensions include a maximum width of 26.5mm (1.043max.), a maximum height of 11.5mm (0.453max.), and a maximum depth of 4.6mm (0.181in).

Technical drawing showing the dimensions of the NVF5a type relay. Key dimensions include a maximum width of 26.5mm (1.043max.), a maximum height of 11.5mm (0.453max.), and a maximum depth of 4.6mm (0.181in).

Technical drawing showing the dimensions of the NVF5b type relay. Key dimensions include a maximum width of 15.3mm (0.602in), a maximum height of 5.1mm (0.201in), and a maximum depth of 0.8mm (0.031in).

NVF5 type

NVF5a type

NVF5b type

Technical drawing showing the dimensions of the PCB type terminals. Key dimensions include a maximum width of 2.5mm (0.098in), a maximum height of 3.2mm (0.126in), and a maximum depth of 0.8mm (0.031in).

Technical drawing showing the dimensions of the PCB type mounting (Bottom view). Key dimensions include a maximum width of 8.0mm (0.315in), a maximum height of 8.4mm (0.331in), and a maximum depth of 17.9mm (0.705in).

Technical drawing showing the dimensions of the Plug in type mounting (Bottom view). Key dimensions include a maximum width of 8.0mm (0.315in), a maximum height of 8.4mm (0.331in), and a maximum depth of 17.9mm (0.705in).

Dimensions

PCB type terminals

PCB type

Plug in type

Mounting (Bottom view)

Wiring diagram 1A1 showing a normally open contact configuration with terminals 86(+), 87, and 85(-).

Wiring diagram 1A2 showing a normally closed contact configuration with terminals 86(+), 87, and 85(-).

Wiring diagram 1B showing a normally open contact configuration with terminals 86(+), 87a, and 85(-).

Wiring diagram 1C showing a normally closed contact configuration with terminals 86(+), 87a, and 85(-).

Wiring diagram 1U showing a normally open contact configuration with terminals 86(+), 87b, and 85(-).

1A1

1A2

1B

1C

1U

Wiring diagram (Bottom view)

NOTES 1).Dimensions are in millimeters.
2).Inch equivalents are given for general information only.